

Amendments to the Claims

Please cancel Claim 1. Claims 2-48 were previously canceled in the Preliminary Amendment filed on April 23, 2004. Please add new Claims 49-90. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1-48. Canceled.

49. (New) A method of decontaminating a gas, wherein said gas comprises one or more of neutral polar protic, neutral polar aprotic, alkaline and polar acidic contaminants, the method comprising removing said contaminants from the gas by passing the gas through a body of decontaminant comprising 10% to 80% by volume an electropositive metal component, 10% to 80% by volume of a late transition metal compound component and 10% to 80% by volume of a high silica zeolite component.

50. (New) The method of Claim 49, wherein the decontaminant comprises a greater proportion of the electropositive metal component than the high silica zeolite component.

51. (New) The method of Claim 49, wherein the decontaminant comprises a smaller proportion of high silica zeolite component than a combination of the electropositive metal component and the late transition metal compound component.

52. (New) The method of Claim 49, wherein the gas comprises water or an alcohol contaminant.

53. (New) The method of Claim 52, wherein the gas comprises a water contaminant.

54. (New) The method of Claim 53, wherein the decontaminant comprises about 70% by volume of an electropositive metal component, about 15% by volume of a late transition metal component and about 15% of a high silica zeolite component.
55. (New) The method of Claim 49, wherein the gas comprises a nitrogen oxide, a sulfur oxide, an organic sulfide or an alkyl halide contaminant.
56. (New) The method of Claim 55, wherein the gas comprises a sulfur oxide or a nitrogen oxide contaminant.
57. (New) The method of Claim 56, wherein the decontaminant comprises about 30% by volume of an electropositive metal component, about 50% by volume of a late transition metal component and about 20% by volume of a high silica zeolite component.
58. (New) The method of Claim 49, wherein the electropositive metal component comprises a Group 3 metal, a Group 4 match, a lanthanide metal, titania, zirconia, yttria or vanadia.
59. (New) The method of Claim 58, wherein the electropositive metal component is a high surface area titania.
60. (New) The method of Claim 49, wherein the high silica zeolite component has a silica to alumina ratio of at least 90 to 1.
61. (New) The method of Claim 60, wherein the high silica zeolite component has a silica to alumina ratio of at least 400 to 1.
62. (New) The method of Claim 49, wherein the high silica zeolite component is Zeolite Y or Zeolite ZSM-5.

63. (New) The method of Claim 49, wherein the late transition metal compound component is a late transition metal oxide.
64. (New) The method of Claim 63, wherein the late transition metal oxide is a Group 7 to 14 metal oxide.
65. (New) The method of Claim 64, wherein the late transition metal oxide is a Group 10 to 14 metal oxide.
66. (New) The method of Claim 64, wherein the late transition metal oxide is iron oxide, copper oxide, nickel oxide or zinc oxide.
67. (New) The method of Claim 49, wherein the late transition metal component is a reduced late transition metal support on a high surface area inorganic material.
68. (New) The method of Claim 67, wherein the high surface area inorganic material has a surface area of at least 100 m² per gram.
69. (New) The method of Claim 67, wherein the high surface area inorganic material is silicon dioxide, aluminum oxide, titanium dioxide or magnesium oxide.
70. (New) The method of Claim 49 further comprising purifying an isolated environment with the gas after removing said contaminants from the gas.
71. (New) A method of decontaminating a gas, wherein said gas comprises one or more of alkaline, acidic polar, neutral non-polar aprotic and environmental gas contaminants, the method comprising removing said contaminants from the gas by passing the gas through a body of decontaminant comprising 10% to 80% by volume of a electropositive metal component, 10% to 80% by volume of a high silica zeolite component and 10% to 80% by volume of a late transition metal compound component.

72. (New) The method of Claim 71, wherein the gas comprises an amine contaminant, an acid contaminant or both.
73. (New) The method of Claim 72, wherein the decontaminant comprises about 40% by volume of an electropositive metal component, about 20% by volume of a high silica zeolite component and about 40% by volume of a late transition metal component.
74. (New) The method of Claim 71, wherein the gas comprises a siloxane contaminant, a hydrocarbon contaminant or both.
75. (New) The method of Claim 71, wherein the decontaminant comprises a smaller proportion of electropositive metal component than a combination of the high silica zeolite component and the late transition metal compound component.
76. (New) The method of Claim 71, wherein the decontaminant comprises a greater proportion of electropositive metal component than late transition metal component, and a greater proportion of high silica zeolite component than late transition metal component.
77. (New) The method of Claim 76, wherein the decontaminant comprises about 40% by volume of an electropositive metal component, about 50% by volume of a high silica zeolite component and about 10% by volume of a late transition metal component.
78. (New) The method of Claim 71, wherein the electropositive metal component comprises a Group 3 metal, a Group 4 match, a lanthanide metal, titania, zirconia, yttria or vanadia.
79. (New) The method of Claim 78, wherein the electropositive metal component is a high surface area titania.

80. (New) The method of Claim 71, wherein the high silica zeolite component has a silica to alumina ratio of at least 90 to 1.
81. (New) The method of Claim 71, wherein the high silica zeolite component has a silica to alumina ratio of at least 400 to 1.
82. (New) The method of Claim 71, wherein the high silica zeolite component is Zeolite Y or Zeolite ZSM-5.
83. (New) The method of Claim 71, wherein the late transition metal compound component is a late transition metal oxide.
84. (New) The method of Claim 83, wherein the late transition metal oxide is a Group 7 to 14 metal oxide.
85. (New) The method of Claim 84, wherein the late transition metal oxide is a Group 10 to 14 metal oxide.
86. (New) The method of Claim 84, wherein the late transition metal oxide is iron oxide, copper oxide, nickel oxide or zinc oxide.
87. (New) The method of Claim 71, wherein the late transition metal component is a reduced late transition metal support on a high surface area inorganic material.
88. (New) The method of Claim 87, wherein the high surface area inorganic material has a surface area of at least 100 m² per gram.
89. (New) The method of Claim 87, wherein the high surface area inorganic material is silicon dioxide, aluminum oxide, titanium dioxide or magnesium oxide.

90. (New) The method of Claim 71 further comprising purifying an isolated environment with the gas after removing said contaminants from the gas.